Amendments to the Claims:

Listing of Claims:

1. (currently amended) A memory management method used in the decoding process of a video frame, for storing at least one motion vector ~~vector(s)~~ of a decoded first macroblock as at least one candidate predictor ~~predictor(s)~~ for future use in the decoding process, the method comprising:

allocating a first memory space and a second memory space in a first memory, wherein each of the first and the second memory spaces is sufficient for storing one motion vector; and

when the first macroblock comprises only one first motion vector, storing the first motion vector in the first or the second memory space.

2. (original) The method of claim 1, further comprising:

when the first macroblock comprises a first block, a second block, a third block, and a fourth block, storing the motion vector of the third block in the first memory space and storing the motion vector of the fourth block in the second memory space.

3. (original) The method of claim 1, wherein the video frame is a progressive frame.

4. (original) The method of claim 1, wherein the video frame is an interlaced frame.

5. (original) The method of claim 4, further comprising:

when the first macroblock comprises a first field and a second field, storing the motion vector of the first field in the first memory space and storing the motion vector of the second field in the second memory space.

6. (original) The method of claim 1, wherein the first memory is a DRAM, an SRAM, or registers.

7. (currently amended) A memory management method used in the decoding process of a video frame, for storing [[the]] at least one motion vector ~~vector(s)~~ of a decoded first macroblock as at least one candidate predictor ~~predictor(s)~~ for use in decoding a next macroblock, the method comprising:

allocating a first ~~third~~ memory space and a second ~~fourth~~ memory space in a first ~~second~~ memory, wherein each of the first ~~third~~ and the second ~~fourth~~ memory spaces is sufficient for storing one motion vector; and

when the first macroblock comprises only one first motion vector, storing the first motion vector in the first ~~third~~ or the second ~~fourth~~ memory space.

8. (currently amended) The method of claim 7, further comprising:

when the first macroblock comprises a first block in a top-left corner, a second block in a top-right corner, a third block in a bottom-left corner, and a fourth block in a bottom-right corner, storing the motion vector of the second ~~third~~ block in the first ~~third~~ memory space and storing the motion vector of the fourth block in the second ~~fourth~~ memory space.

9. (original) The method of claim 7, wherein the video frame is a progressive frame.

10. (original) The method of claim 7, wherein the video frame is an interlaced frame.

11. (currently amended) The method of claim 10, further comprising:

when the first macroblock comprises a first field and a second field, storing the motion vector of the first field in the first ~~third~~ memory space and storing the

motion vector of the second field in the second ~~fourth~~ memory space.

12. (original) The method of claim 7, wherein the first memory comprises processing registers, registers, a DRAM, or an SRAM.

13. (currently amended) A row-based memory management method used in the decoding process of a video frame, for storing the motion vectors of a plurality of decoded macroblocks as candidate predictors for use in the decoding process, wherein each row of the video frame comprises N macroblocks, the method comprising:

allocating N memory units in a first memory, wherein each memory unit is sufficient for storing [[the]] at least one motion vector ~~vector(s)~~ of one macroblock;

when a first macroblock located at an L^{th} row and a K^{th} column is decoded, storing [[the]] at least one motion vector ~~vector(s)~~ of the first macroblock in a K^{th} memory unit of the memory units to overwrite [[the]] at least one motion vector ~~vector(s)~~ of a second macroblock previously stored in the K^{th} memory unit, wherein the second macroblock is located at an $(L-1)^{th}$ row and the K^{th} column, K is an integer between 1 and N, and L is an integer larger than 1.

14. (original) The method of claim 13, wherein the video frame is a progressive frame.

15. (original) The method of claim 13, wherein the video frame is an interlaced frame.

16. (original) The method of claim 13, wherein the first memory comprises a DRAM, an SRAM, or registers.

17. (currently amended) The method of claim 13, further comprising:

allocating an additional memory unit in a second memory, wherein the additional

memory unit is capable of storing [[the]] at least one motion vector ~~vector(s)~~ of one macroblock;

when a third macroblock of the video frame is decoded, storing [[the]] at least one motion vector ~~vector(s)~~ of the third macroblock in the additional memory unit to overwrite [[the]] at least one motion vector ~~vector(s)~~ of a fourth macroblock previously stored in the additional memory unit, wherein the fourth macroblock is decoded immediately before the third macroblock.

18. (original) The method of claim 17, wherein the first memory comprises processing registers, registers, a DRAM, or an SRAM.